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EXAMINER

SIMITOSKI, MICHAEL J

ART UNIT PAPER NUMBER

2134

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/809,073

Applicant(s)

TARBOTTON ET AL.

Examiner

Michael J. Simitoski

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-8,10-16,18-22,24-30,32-36 and 38-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-16,18-22,24-30,32-36 and 38-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-2, 4-8, 10-16, 18-22, 24-30, 32-36 & 38-46 are pending.

***Response to Arguments***

2. In view of the pre-appeal conference request filed on 8/22/2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

3. It is noted that Applicant's amendments of 4/10/2006 to the claims are not in compliance with 37 CFR 1.121(c). For example, the use of a single bracket set ([ ]) is not compliant with 37 CFR 1.121(c)(2); rather a strike-through should be used or a double bracket ([[]]) may be used when deleting five or fewer characters or when a strike-through is not easily perceived. The response has been considered as a bona fide attempt, however, any further submissions not compliant with 37 CFR 1.121(c) will be treated as such, according to MPEP §714.

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4. Applicant's response of 4/10/2006 (p. 11) argues that "undesired" is described in the specification. However, this argument is moot, as applicant has removed this language from the claims.

5. Applicant's response of 4/10/2006 (pp. 11-12) argues that "non-virus" is to be read with regards to its plain and ordinary meaning, as evidenced by dictionary definitions. Applicant cites a definition from the American Heritage Dictionary of the English Language. Therefore, the term "virus" and as such its opposite "non-virus" will be interpreted with regards to their plain and ordinary meaning. Applicant's definition is considered appropriate; as well, the Examiner cites Kephart's definition (col. 1, lines 17-21). Therefore, the rejections under 35 U.S.C. §112 are withdrawn.

6. Applicant's response of 4/10/2006 (p. 12) argues that "the Kephart reference teaches only the identification of virus signatures from a list or from files containing invariant viral code for the purpose of future extraction (col. 5, lines 57-61)", but "applicant's logic differentiates between the identification of computer viruses and computer programs banned from use and performs the identification of the computer programs banned from use after the computer virus identification". However, since Kephart's invention identifies both virus and non-virus (programs banned from use), it is an inherent feature of the Kephart invention, if run more than once, to identify a program banned from use after identifying a virus. For instance, even if on each pass through the signature list, the viruses were checked last, on the next running of the checker, the program will have identified the banned programs after the previous identification of viruses. Further, one of ordinary skill in the art would have been motivated to prioritize the identification of viruses before identifying the computer programs banned from use because it is

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well known to identify the most severe threats first. In this case, if a virus is attached to a system, this would be a more severe threat than a non-virus program which is not self-replicating. This is also common in intrusion detection using signatures, where the most severe intrusions are identified first and then the less severe intrusions are identified.

7. Applicant's response of 4/10/2006 (p. 13) also introduces new claims. Specifically, claim 43 recites (similar to claim 44) "wherein the at least one non-virus computer program includes at least one of a game or a data streaming program". However, Kephart discloses detecting and removing both virus and non-virus programs. Lavasoft (previously cited) teaches detecting and removing adware. The instantly cited patent to Fuller discloses that adware streams data. Therefore, it is submitted that the limitation regarding the non-virus programs including data streaming programs is an obvious variation over these references. Regarding claim 44, Kephart, as modified by Lavasoft and Fuller, lacks the non-virus programs including games. However, Brown teaches that it is known for an employer to prevent the addition of games onto an employee computer (col. 4, lines 10-12). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart such that the non-virus computer programs further include games. One of ordinary skill in the art would have been motivated to perform such a modification to enable employers to prevent the addition of the games to employee computers, as taught by Brown (col. 4, lines 10-12).

8. Applicant's response of 4/10/2006 (p. 13) introduces additional claim 45, reciting that the anti-virus logic of a plurality of end users each includes a different selected set of computer programs banned from use. However, Kephart discloses the user is the entity supplying a file from which signatures are extracted (col. 5, lines 57-61). Therefore, it is an inherent feature of

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Kephart that each end user anti computer virus logic includes a different selected set of computer programs (user-selected signatures) banned from use.

9. Applicant's response of 4/10/2006 (p. 13) introduces an additional claim 46. Kephart lacks receiving a file access request and scanning the file, as claimed. However, Golds teaches that it is known to stack software modules as file system filter drivers that intercept file system-directed requests to a base file system for virus scanning (§3 & §8) and send a failed response/return if the operation is not passed (§31). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart to intercept a file access request and perform an anti-virus scan and return a fail response to an operating system if the anti-virus scan is not passed to filter requests to a file system as is known in the art. Kephart is silent to the limitation that if said anti-virus scan is passed, a scan for the computer programs banned from use is performed. However, it is inherent in Kephart, as modified, that all signatures will be scanned and therefore, if one signature does not match a file, the next will be checked. Therefore, since Kephart scans a file with respect to virus and non-virus files, it is inherent that when a virus signature does not match the file being scanned, the file will be scanned for the remaining signatures, at least one corresponding to a non-virus file.

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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11. Claims 1, 4, 7, 13, 15, 18, 21, 27, 29, 32, 35, 41 & 45 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent 5,452,442 to **Kephart**.

Regarding claims 1, 4, 7, 13, 15, 18, 21, 27, 29, 32, 35 & 41, Kephart discloses a user controlled program specifying logic (col. 5, lines 57-61) to specify said at least one computer program to be banned from use (col. 1, lines 35-49 & col. 5, lines 57-61), said at least one computer program comprising an undesired, non-virus computer program (col. 1, lines 15-34), and banned program identifying data generating logic responsive to said user controlled program specifying logic to generate banned program identifying data/signature (col. 5, lines 57-61) for at least one computer program to be banned from use, said banned program identifying data being operable to control anti computer virus logic/scanner (col. 1, lines 35-49) to identify computer programs banned from use (col. 1, lines 35-49 & col. 2, lines 5-12). While Kephart is silent regarding the order of identifying computer viruses and programs banned from use, it is an inherent feature of Kephart's invention that, if the product/apparatus/method is executed more than once, as is common in the art, regardless of whether viruses or non-viruses are identified first on the first execution, the second execution will have identified non-viruses after viruses because it identifies both each time. Further, one having ordinary skill in the art would have been motivated to modify Kephart in such a way that the system identifies the non-viruses after the viruses. One of ordinary skill in the art would have been motivated to perform such a modification to eliminate the most severe or crucial threats (viruses) first.

Regarding claim 45, Kephart discloses the user supplying a file from which signatures are extracted (col. 5, lines 57-61). Therefore, it is an inherent feature of Kephart that each end user

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anti computer virus logic includes a different selected set of computer programs banned from use.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2, 8, 16, 22, 30 & 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart**, as applied to claims 1, 7, 15, 21, 29 & 35 above, in further view of “Bad IDEA” by Peter Szor (**Szor**), in further view of “Cryptography in Everyday Life” by Sarah Simpson (**Simpson**). Kephart lacks encrypting the banned program identifying data/signatures with a private key. However, Szor teaches that to prevent modification of antivirus signature files, the files should be encrypted (p. 19, col. 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart to encrypt the banned program identifying data/signatures. One of ordinary skill in the art would have been motivated to perform such a modification to prevent modification of antivirus signature files, as taught by Szor (p. 19, col. 2). As modified, Symantec lacks using a private key. However, Simpson teaches that by encrypting a file with a private key, the sender of the encrypted file can be verified by decrypting it with the corresponding public key (p. 1, ¶1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to



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use a private key. One of ordinary skill in the art would have been motivated to perform such a modification to verify the creator of the signature files, as taught by Simpson (p. 1).

14. Claims 5, 19 & 33, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart**, as applied to claims 4, 18 & 32 above, in further view of “Heuristic Anti-Virus Technology” by **Veldman**. Kephart discloses detecting known viruses, but lacks the banned program identifying data including heuristic data identifying one or more behavioral characteristics. However, Veldman teaches that using heuristics and examining behaviors of a program allows detection of unknown viruses (§1 & §2.1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to including in the identifying data, heuristic data identifying one or more behavioral characteristics. One of ordinary skill in the art would have been motivated to perform such a modification to detect unknown computer viruses, as taught by Veldman (§1, ¶1 & §2.1).

15. Claims 10, 24 & 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart, Szor and Simpson**, as applied claims 8, 22 & 36 above, in further view of U.S. Patent 5,844,986 to **Davis**. Kephart, as modified above, lacks storing the identifying data in a secure memory region. However, Davis teaches that to prevent a virus from corrupting a BIOS (secure flash memory), an authentication and validation procedure is required before the contents of the BIOS memory can be modified (col. 1, lines 32-45, lines 63-67 & col. 2, lines 1-7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to store the identifying data in a secure memory region (memory requiring authentication).

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One of ordinary skill in the art would have been motivated to perform such a modification to prevent a virus from corrupting the identifying data, as taught by Davis (col. 1, lines 32-45 & 63-67).

16. Claims 11-12, 25-26 & 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart**, as applied to claims 7, 21 & 35 above, in view of “Norton AntiVirus User’s Guide”, by Symantec Corporation (**Symantec**).

Regarding claims 11, 25 & 39, Kephart, as modified above, lacks explicitly triggering a banned program action. However, Symantec teaches that it is known to alert a user for a response (pp. 39-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart’s scanner to trigger a banned program action such as deleting the banned computer program (p. 40). One of ordinary skill in the art would have been motivated to perform such a modification to allow the user to rid the computer of the virus if the repair is not successful, as taught by Symantec (pp. 39-40).

Regarding claim 12, 26 & 40, Kephart, as modified above, lacks responding to an absence of said user generated banned program identifying data. However, Symantec teaches that it is important to have the most up-to-date virus signatures/banned program identifying data (p. 11) and that the signatures can be updated by restoring them from a remote source (p. 18). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart, as modified above, to respond to an absence of banned program identifying data by restoring the data from a remote source. One of ordinary skill in the

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art would have been motivated to perform such a modification to keep the system up-to-date, as taught by Symantec (pp. 11 & 18).

17. Claims 6, 14, 20, 28, 34 & 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart**, as applied to claims 1, 7, 15, 21, 29 & 35 above, in view of U.S. Patent 6,694,434 to McGee et al. (**McGee**). Kephart lacks the banned program identifying data comprising data identifying permitted compute programs with all computer programs not matching a permitted computer program being identified as a computer program banned from use. However, McGee teaches that it would be desirable to control whether a calling application can execute on a processor, since unauthorized applications can be inadvertently downloaded onto a system (col. 2, lines 35-41). McGee further discloses that each calling application's unique application verification data is generated upon its calling and compared to a list of authorized programs (col. 3, line 64 – col. 4, line 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart so that the banned program identifying data comprising data identifying permitted compute programs with all computer programs not matching a permitted computer program being identified as a computer program banned from use. One of ordinary skill in the art would have been motivated to perform such a modification to protect a computer against inadvertently downloaded unauthorized programs, as taught by McGee (col. 2, lines 35-41 & col. 3, line 64 – col. 4, line 4).

18. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart**, as applied to claim 1, in view of "Ad-aware" by **Lavasoft** and U.S. Patent 6,216,112 to Fuller et al.

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(**Fuller**). Kephart lacks the non-virus computer program including at least one of a game and a data streaming program. However, Lavasoft teaches that it is known to detect and remove spyware and adware (p. 1) because spyware can, for example, change a user's system (p. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart to include spyware/adware in the signatures, allowing the anti-virus logic to delete the adware/spyware. One of ordinary skill in the art would have been motivated to perform such a modification because detecting and removing adware and spyware is known in the art as beneficial, as taught by Lavasoft (p. 1). As modified, Kephart lacks explicitly a data streaming program. However, Fuller teaches that it is known in the art to install adware in a computer system, where the adware contacts servers and downloads new advertisements (streams data) (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Kephart to use the anti-virus software to remove data streaming programs. One of ordinary skill in the art would have been motivated to perform such a modification because adware streams data, as taught by Fuller (abstract).

19. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart**, **Lavasoft**, and **Fuller**, in further view of U.S. Patent 5,859,968 to Brown et al. (**Brown**).

Regarding claim 44, Kephart, as modified above by Lavasoft and Fuller, lacks the non-virus programs further including games. However, Brown teaches that it is known for an employer to prevent the addition of games onto an employee computer (col. 4, lines 10-12). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was

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made to modify Kephart such that the non-virus computer programs further include games. One of ordinary skill in the art would have been motivated to perform such a modification to enable employers to prevent the addition of the games to employee computers, as taught by Brown (col. 4, lines 10-12).

20. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kephart**, as applied to claim 1 above, in further view of U.S. Patent Application Publication 2001/0020245 to Golds et al. (**Golds**). Kephart, as described above, lacks receiving a file access request and scanning the file. However, Golds teaches that it is known to stack software modules as file system filter drivers that intercept file system-directed requests to a base file system for virus scanning (§§3 & §8) and send a failed response/return if the operation is not passed (§31). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kephart to intercept a file access request and perform an anti-virus scan and return a fail response to an operating is the anti-virus scan is not passed. One of ordinary skill in the art would have been motivated to perform such a modification to filter requests to a file system as is known in the art, as taught by Golds (§§3 & 8). As modified, Kephart is silent as to the limitation that if said anti-virus scan is passed, a scan for the computer programs banned from use is performed. However, it is inherent in Kephart that all signatures will be scanned and therefore, if one signature does not match a file, the next will be checked. Therefore, since Kephart scans a file with respect to virus and non-virus files, it is inherent that when a virus signature does not match the file being scanned, the file will be scanned for the remaining signatures, at least one corresponding to a non-virus file.

***Conclusion***

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. The '920 patent is cited for teaching identifying viruses before other non-virus data (cols. 4-5), but lacks motivation for doing so.
- b. The patent publication to Le-Rouzo is cited for teaching detecting non-virus programs, but does not constitute prior art.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (571) 272-3841.

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The examiner can normally be reached on Monday - Thursday, 6:45 a.m. - 4:15 p.m.. The examiner can also be reached on alternate Fridays from 6:45 a.m. - 3:15 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis Jacques can be reached at (571) 272-6962.

**Any response to this action should be mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Or faxed to:**

(571) 273-8300  
(for formal communications intended for entry)

**Or:**

(571) 273-3841 (Examiner's fax, for informal or draft communications, please label "PROPOSED" or "DRAFT")

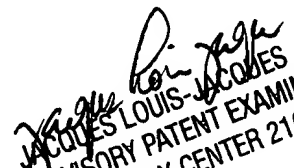
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJS



September 1, 2006

  
JACQUES LOUIS-JACQUES  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100